
Table of Contents

| | |
|--|------------|
| Acronyms and Abbreviations | v |
| Chapter 1 Executive Summary | 1-1 |
| 1.1 I/I Control Study | 1-1 |
| 1.2 Summary of Program Alternatives | 1-2 |
| 1.2.1 Alternative 1: Reduce Peak I/I by 30 Percent in the Regional Service Area from the Peak 20-Year Level | 1-3 |
| 1.2.2 Alternative 2: Implement I/I Reduction Projects that Are Found to be Cost-Effective Based on a <i>Region-Wide</i> Evaluation..... | 1-3 |
| 1.2.3 Alternative 3: Implement I/I Reduction Projects that Are Found to be Cost-Effective Based on a <i>Project-Specific</i> Evaluation..... | 1-4 |
| 1.2.4 Alternative 4: Set a Fixed Maximum I/I Threshold Expressed as Gallons per Acre per Day (gpad) at Peak Flow for Each Local Agency | 1-4 |
| 1.3 Issues Related to Program Development | 1-5 |
| 1.3.1 Setting Voluntary or Mandatory I/I Provisions for Local Agency Compliance.... | 1-5 |
| 1.3.2 Establishing Target Levels for I/I Control Program..... | 1-6 |
| 1.3.3 Funding I/I Reduction Projects..... | 1-6 |
| 1.3.4 Defining Roles and Responsibilities | 1-6 |
| 1.4 Basis for Program Alternatives | 1-7 |
| 1.4.1 Flow Monitoring and Pilot Projects | 1-7 |
| 1.4.2 Draft Standards, Procedures, Guidelines, and Policies | 1-7 |
| 1.4.3 Planning Assumptions | 1-8 |
| 1.4.4 Criteria for Benefit-Cost Analysis..... | 1-8 |
| 1.5 Next Steps | 1-9 |
| Chapter 2 Direction and Process for Regional I/I Control Program | 2-1 |
| 2.1 Regional Wastewater Services Plan Direction: Goals and Policies..... | 2-1 |
| 2.2 Process for Regional I/I Control Program Development | 2-2 |
| 2.3 Work Completed to Date | 2-4 |
| 2.3.1 Flow Monitoring..... | 2-4 |
| 2.3.2 Regional System Modeling | 2-5 |
| 2.3.3 Standards, Procedures, Guidelines, and Policies | 2-6 |
| 2.3.4 Pilot Projects..... | 2-7 |
| 2.3.5 Regional I/I Control Program Assumptions | 2-9 |
| 2.3.6 Regional Needs Assessment Report..... | 2-10 |
| 2.4 Cost-effectiveness and Environmental Benefits | 2-11 |
| 2.4.1 Cost-effectiveness Analysis..... | 2-11 |
| 2.4.2 Environmental Assessment | 2-11 |
| Chapter 3 Key Regional I/I Control Program Elements | 3-1 |
| 3.1 Direct I/I Reduction | 3-1 |
| 3.1.1 Types of Projects to be Implemented | 3-2 |
| 3.1.2 Program Funding..... | 3-2 |
| 3.2 Long-Term I/I Control | 3-3 |
| 3.2.1 Policy Considerations..... | 3-3 |

Table of Contents

| | | |
|-----------------------|---|------------|
| 3.2.2 | Administrative Considerations | 3-4 |
| 3.2.3 | Technical Considerations | 3-5 |
| 3.3 | Legal/Regulatory Foundation | 3-5 |
| 3.3.1 | Compliance Program..... | 3-7 |
| 3.3.2 | Loan Program | 3-8 |
| 3.3.3 | Direct Purchase Program..... | 3-8 |
| 3.3.4 | Summary | 3-9 |
| Chapter 4 | Summary of Alternatives and Program Components | 4-1 |
| 4.1 | Introduction..... | 4-1 |
| 4.2 | Alternatives | 4-1 |
| 4.2.1 | Alternative 1 | 4-2 |
| 4.2.2 | Alternative 2 | 4-2 |
| 4.2.3 | Alternative 3 | 4-3 |
| 4.2.4 | Alternative 4 | 4-3 |
| 4.3 | Other Program Components..... | 4-4 |
| 4.3.1 | I/I Threshold | 4-4 |
| 4.3.2 | Inclusion of Pre-1961 Pipe Systems in an I/I Program | 4-5 |
| 4.3.3 | Rates, Incentives, and Surcharges | 4-6 |
| 4.3.4 | Private Property Issues | 4-8 |
| 4.3.5 | Standards, Procedures, and Policies | 4-8 |
| 4.3.6 | Public Education and Involvement..... | 4-9 |
| 4.4 | Program Components with a Single Approach..... | 4-9 |
| 4.4.1 | Regional I/I Control Program Assumptions | 4-10 |
| 4.4.2 | Regional I/I Control Program Review Period | 4-10 |
| 4.4.3 | Environmental Review | 4-11 |
| Chapter 5 | Public Outreach Program | 5-1 |
| 5.1 | Summary | 5-1 |
| 5.2 | Results of 2000–2004 Surveys..... | 5-1 |
| 5.3 | Pilot Project Public Information Efforts | 5-3 |
| Chapter 6 | Next Steps..... | 6-1 |
| 6.1 | Regional Needs Assessment Report | 6-1 |
| 6.2 | Cost-Effectiveness Analysis | 6-1 |
| 6.3 | Financial Feasibility Analysis of a 30-Percent I/I Reduction Goal..... | 6-2 |
| 6.4 | Analysis of a Regulatory Approach: Thresholds, Surcharges, and Monitoring Requirements..... | 6-2 |
| 6.5 | Further Analysis of Private Property I/I Program Options | 6-3 |
| 6.6 | Immediate Next Steps | 6-3 |
| Glossary | | G-1 |
| List of Tables | | |
| Table 1-1. | Summary of I/I Control Program Alternatives | 1-3 |
| Table 2-1. | King County–Local Agency Workshop Topics | 2-3 |
| Table 2-2. | Pilot Projects..... | 2-8 |
| Table 2-3. | I/I Reduction Percentages for Pilot Projects | 2-9 |

List of Figures

| | |
|---|-----|
| Figure 1-1. Regional Infiltration/Inflow Program Milestones | 1-2 |
| Figure 2-1. Pilot Project Location Map | 2-7 |

Appendices

Appendix A

- A1 – Rates, Incentives, and Surcharges Technical Paper
- A2 – Private Property Issues
- A3 – Standards, Procedures, and Policies
- A4 – Assumptions for Regional I/I Control Program
- A5 – Environmental Issues
- A5A – Potential Environmental Costs and Benefits of the King County Regional I/I Control Program
- A6 – Selected Legal Authorities Related to Implementing and Funding an Infiltration and Inflow Reduction Program
- A7 – Inflow and Infiltration Public Survey Report
- A8 – Options Considered and Not Selected

Appendix B (Available on CD)

- B1 – 2001/2002 Wet Weather Flow Monitoring Report
- B2 – Standards, Policies and Procedures and Intergovernmental Agreement
- B3 – Pilot Project Report